Northwest Woodworkers Association

THE SAWDUST NEWS

Northwest Woodworkers Association

September 2014 http://www.nwwoodworkers.org

An association for woodworkers of all skill levels to share their common interest

The Next Meeting

Date: **September 25, 2014**
Location: **Woodcraft Supply**
5963 Corson S.
Seattle, WA 98125
Program Highlights: **Bonnie Klein** will give a presentation about her **First Prize** step stool entry in last year's **2 x 4 Challenge**. Another of our "**Don't Miss**" meetings. See you there.

August 2014 Meeting Highlights

Newsletter Photos by Scott Wilson

The **August 2014** meeting of the **Northwest Woodworkers Association** was held on **Thursday, August 28, 2014** at **Rockler – Northgate** in Seattle. A special thanks to **Lawrence King** and his staff for providing the refreshments and the great venue for holding our meeting.

There were 16 members present and no guests or new members.

During our member discussion period, **Thomas Naylor** presented a stair rebuilding question to the group to solicit possible solutions. He asked the group if there was a suitable and practical way to fasten stair treads to the risers from underneath the structure. The most viable

suggestion was to purchase steel angle brackets made for that application and fasten them to both the risers and the treads from below.

Charlie Culler mentioned that since he has relocated to an apartment, he no longer has a shop available to him. He inquired of the group as to whether any of the members would be willing to share shop space with him or if anyone knew of an available situation that might meet his needs. If anyone has such help available or knows of any that might be suitable, please contact **Charlie Culler** at ***206-755-9498***. Thank you.

We were glad to see that our Staff Photographer, **Scott Wilson**, is recovering from his hand injury. We wish him a speedy and complete recovery so that he can get back to woodworking. And thanks, **Scott**, for providing the great meeting photos contained in this Newsletter.

A special thanks also to **Chris Yee**, who so ably filled in for our vacationing Secretary, **Jan Erickson**, providing the meeting notes for us.

August 2014 Meeting Program:
The 2014 "2 x 4 Challenge"

Ole Wooden Bucket

by Herb Stoops

Puzzle Box

by Eric Iverson

Serving Tray

by Paul Stoops

Segmented Bowl

by Ed Moore

Candlestick Holder

by Bill Bond

Sushi Tray

by Chris Green

CONTEST ENTRIES

ENTRY NO. 1 **– Ole Wooden Bucket by Herb Stoops**

Herb Stoops' entry in the contest was a cleverly crafted coopered wooden bucket, somehow reminiscent of the old ballads referring to "beer buckets with a hole in them", but there was no beer or any holes in the bucket ..... :-)

Looking at his available material, **Herb** decided that he had enough material to make a bucket with 32 tapered staves. To minimize the saw kerf loss, he cut straight strips for the staves on his bandsaw.

Analyzing a full size layout, he was able to calculate the stave edge taper required to produce a 5º diameter taper from the top to the bottom of the bucket.

Using two cleverly designed jigs, he cut the tapers on the staves using his tablesaw. In addition, he

determined the angle cut required on the bottom of the staves in able to allow the bucket to sit flat with the ends of the staves in full contact (instead of just resting on the outer edges), which he then cut on his tablesaw. **Herb** also cut a 3/8" wide dado across each stave to retain the bottom of the bucket.

After cutting all of the staves, he laid them out flat and taped them together, enabling him to roll them up into the finished configuration so that he could accurately determine the diameter of the bottom of the bucket. Using more of the 2 x 4 material, he fashioned a 3/8" thick panel which he cut into a circle to match the diameter of the bottom of the bucket.

He then installed the bucket bottom panel and rolled the taped together staves around it to dry fit the assembled components. Lifting the assembly from the workbench so that he could inspect the fitup of the components, he discovered that the bottom panel was still sitting on the bench.....!! Much to his dismay, he had forgotten to enlarge the diameter of the bottom panel to include the depth of the dados in the staves. What to do now?? With no extra material to remake the bottom panel, he decided to remove one of the staves, thereby reducing the diameter of the bucket enough to retain the bottom panel. He said it took a little twiddling to reposition the staves to compensate for the missing stave, but he was able to make the adjustment successfully. Whew! What a relief, huh, **Herb**! Oh, those Sr. Moments that many of us seem to have with increasing frequency..... :-) After the course correction, he rolled the taped together staves out on the bench and applied **Titebond** glue between the staves and rolled them back into the tapered shape with the bottom panel installed.

To finish off his bucket, **Herb** wanted to put a couple of bands around the top and bottom – like all good wooden buckets have. His first choice was to use a band of Formica type laminate. However, he discovered that the rigidity of the material didn't allow him to install it around the tapered form. So, being the resourceful fellow that he is, **Herb** used some vinyl perforated plumbers tape painted black, which he could conform to the tapered shape. To dress it up and mask the holes, he installed decorative upholstery tacks into all of the holes. And of course every bucket worth its salt has to have a bail, so he commandeered one from a plastic bucket he had in the shop and installed it onto wooden brackets attached to the sides of the bucket. Shellac sealer and water borne poly finished it off. Great project, **Herb,** with lots of thought, fast thinking and innovation!

ENTRY NO. 2 **– Serving Tray by Paul Stoops**

Paul Stoops' contest entry was a uniquely designed serving tray which emphasized the bold end grain patterns exhibited by Douglas Fir.

Paul introduced the discussion of his entry noting that this was the first project he has made in his present shop, aside from shop cabinets and other shop related items. After admiring all of the many projects that our members have presented, he said it was very gratifying to be able to join in the fun and joy of our shared woodworking hobby.

He explained that the inspiration for this project was an end grain cutting board design from a Russian woodworker which he had found on the internet. The original design, called a "Butterfly Board", and its construction technique may be seen here: https://www.youtube.com/watch?v=gliOZyHkdps .

The Douglas Fir 2 x 4 **Paul** purchased at his local Lowes store was clear with only one knot across the piece near one end. Upon close inspection, he noted that across the width of the piece one edge had a close grain pattern while the opposite edge had widely spaced growth

rings, producing an interesting end grain pattern. He anticipated that the contrast between the two grain patterns would be further enhanced by rotating adjacent segments of the tray field pattern by 90º to each other.

Paul said the field pattern for the bottom of the 11” x 17” tray was an adaptation of the original Butterfly Board design. It was a geometric, repeating pattern, loosely based upon a mathematical series of increasing/decreasing numbers. One interesting feature of the original design was of special interest – the width of the strips and segments used to form the panels were dimensioned in Metric Units! To accommodate, **Paul** purchased a Harbor Freight digital dial indicator with an Inch/Metric display option for setting his tablesaw fence position with great accuracy. Note the 9mm display in the photo.

Not having worked with Metric Units before, he said it seemed a little strange at first, but noted that for the narrow pieces used in this project, the whole number Metric dimensions, such as 3mm, 5mm, etc. were much easier to use than decimal numbers like 0.118” or 0.197” to set up his tablesaw for cutting the thin strips.

The construction technique used for fabricating the field panel was similar to that typically used for end grain cutting boards – strips of edge grain material were joined into panels which were subsequently cut crosswise into strips. These strips were rotated 90º to provide end grain strips and reglued into panels. The end grain panels were cut again into various width end grain strips which were subsequently glued together after arranging in a specific sequence to produce a panel with the desired geometric pattern. To simplify the construction, the field panel was made to the full 11” width and half length (8 ½”) with a thickness of approximately 1 inch. A drum sander was used to reduce individual strips to the desired thicknesses and level the panel glue ups.

Using a technique recommended on the internet, **Paul** used his tablesaw to cut a ¾” deep kerf in the center of the panel thickness on all sides and then used his bandsaw to resaw the 8 ½” wide panel into two panels which were subsequently joined to form the final bookmatched field panel. This kerfing technique reduced the amount of material to be resawn, helped minimize bandsaw blade wander, and increased resawing safety because the blade was still buried in the panel at the end of the resaw cut. Stacked featherboards were used to hold the panel against the high resaw fence.

The resawn book matched panels were subsequently smoothed on his drum sander to the final thickness before and after joining.

Preparation of the tapered sides of the tray presented their own challenges. **Paul** discovered that the pieces of the 2 x 4 left over from the field panel were too short to make the sides! So he used box joints to butt join short pieces to produce sufficient length. In addition, he had to cope the corners of the tray at a 45º angle to further accommodate the short lengths. (Mental note to **Paul** for next year: Plan ahead – there ain’t a whole lot of material in a 2 x 4!)

And not to be left out of the Sr. Moment events, **Paul** discovered that he had cut the dadoes for the field panel into the ***wrong side*** of the side pieces! Horrors! What to do then since there

wasn't any left over material to remake the sides? Aha! Why not inlay the errant dadoes with leftover strips of the segmented field panel? A solution to a screw up that turned out to be a rather distinctive feature of the project! Whew! That was a close one!! Gotta watch out fer them there sneaky Sr. Cits, folks! ..... :-)

The high gloss finish of the field panel brought forth great interest from the group. This was accomplished by sanding the top surface of the bare wood panel up to 400 grit with his ROS. Then he applied four brush coats of high gloss **EM9000 Super Clear Interior Polyurethane**. This is a water-clear, water-borne polyurethane product marketed by **Target Coatings**.

Information and pricing about this product may be found here:
http://www.targetcoatings.com/products/interior-top-coats/em9000-super-clear-interior-polyurethane.html

Although designed for spraying, **Paul** said that this was his product of choice for this application because it forms a clear, hard coating which can be polished to a high gloss. Many makers of musical instruments such as guitars, drums, etc. use this product to produce their high gloss finishes. He also noted that foam brushes produce a smoother coat than typical bristled brushes.

He said that shortly after he applied the first coat of finish to the panel, it curled up from end to end! So, after his heart started again, he quickly inverted the panel and applied a coat of finish to the opposite side, hoping that the shrinkage of the two coats would counteract one another – and fortunately they did, bringing the panel back to an almost flat condition. Whew, what a relief!! Three more brush coats were applied to each side of the panel providing a fairly heavy coating which was thick enough to withstand subsequent sanding to a flat surface. This finish incorporates self flattening agents and cross linking chemistry that tends to self level over a recommended 100 hour curing time. The finish was applied to the field panel before the sides were attached.

After attachment of the side and end rails, the top surface of the field panel was again sanded with his ROS using a series of super fine **Micro Mesh** abrasive pads from 1200 mesh (400 grit equiv.) to 12,000 mesh. (http://www.rockler.com/micro-mesh8482-cushioned-abrasives) These operations produced a flat, high gloss surface, which enhanced the bold end grain patterns of the Douglas Fir material. Application of two coats of paste Carnauba wax with subsequent hand polishing finished off the tray. A great, well executed project, **Paul** with some clever disaster escapes! Never knew a 2 x 4 could look this good!!

ENTRY NO. 3 **– Candlestick Holder by Bill Bond**

Bill Bond's contest entry was a beautifully crafted cedar candlestick holder turned on his lathe. He described how he had made the top and bottom sections of his project by joining four sections of his red cedar 2 x 4 to form each of the components. Two additional pieces of the 2 x 4 were then joined to form the blank for the center column.

He then chucked the assembly up on his lathe and sculpted both ends with gracefully molded profiles which complemented the piece. He also turned the center column into a round shape.

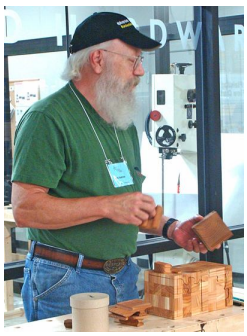
Then **Bill** went on to describe how he had formed the double helix spiral groove in the center column in a very unique way. He first laid out the centerline of the double spiral helix around the circumference of the column using dimensional information he found in one of his reference books. This curved line would serve to locate the center of a series of overlapping holes used to rough out the spiral groove.

He then fixtured the assembly on his drill press table with the column axis horizontal. Using a ¾" diameter Forstner bit, **Bill** made a series of overlapping holes half way through the column, indexing the hole position along the inscribed helix centerline after each hole. He then flipped the assembly over to the opposite side and repeated the series of overlapping holes drilled to a depth of half of the column diameter, again indexed along the inscribed helix centerline. Bill noted that using a Forstner bit produced clean holes and allowed overlapping holes without the bit drifting out of position.

After this series of drilling operations, the resulting rough through groove was smoothed by rasps, files, and sandpaper into a smooth, graceful spiral.

The clear satin finish of **Odie's Oil** complemented the overall appearance of the project and brought out the subtle grain patterns and natural colors of the beautiful cedar material. What a beautiful, graceful piece, **Bill**, which required a lot of careful planning, patience, and expert execution!

ENTRY NO. 4 **– Puzzle Box by Eric Iverson**



Eric Iverson's entry in the contest was a really unique and complicated puzzle box. Choosing a yellow cedar 2 x 4 with a widely varying grain pattern and color, he ripped the piece into strips which he subsequently joined into a solid block, incorporating both side grain and end grain components. This technique made for a wonderful patchwork of colors and patterns, greatly enhancing the appearance of the project.

Contemplating what he could make from such a block of wood, **Eric** said he recalled seeing a puzzle box design in one of his reference books. So he dug out the book in the hope that it would provide him some ideas and concepts he could apply to this **2 x 4 Challenge** project.

To test the methodology, **Eric** decided to fabricate a prototype puzzle box from some available material before trying it on his selected 2 x 4 material. Consequently, he fabricated the prototype box using his 12 inch bandsaw equipped with a ¼" wide, 4 TPI blade. He showed the group his prototype box and disassembled it for us to show the interlocking features and hidden internal boxes and features. Amazing work, **Eric**!

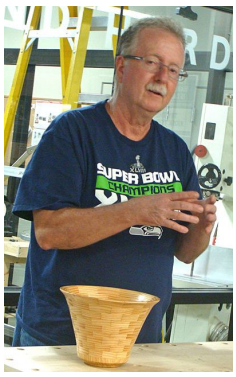
He then went on to describe how he had applied similar techniques to fabricate his actual contest entry puzzle box. He noted that in essence, the fabrication method was very similar to that used to make bandsaw boxes – i.e. the bottom of the starting block is cut away to allow the interior of the box to be sawn out and reattached later.

Applying that principle, **Eric** made a series of internal hollow boxes oriented from both the top and the sides of the main box. He sculpted interlocking keys to retain the various internal boxes and components. He noted that the actual contest entry box exceeded the sawing capacity of his home bandsaw, so he was able to bring the project to the **Rockler** store where he works to accomplish the intricate sawing operations required to form the complicated internal components of the puzzle box. He noted that there wasn't really any fixed plan for the configuration of the individual boxes, but their configuration sort of evolved on the spot as he was making the complex cuts.

He said that he finished the puzzle box with a coat of mineral oil to enhance the lovely colors and grain patterns.

We were delighted and amazed as **Eric** disassembled his puzzle box to display its many interlocking component pieces, keys, and complex assemblies and hidden internal boxes. What a great job on a delightful project, **Eric**! Good show!!

ENTRY NO. 5 **– Segmented Bowl by Ed Moore**



Ed Moore's contest entry was a segmented bowl turned on his lathe. This graceful bowl was made of nine ring shaped layers, each consisting of 12 segments, and stacked upon each other and a base layer to form a hollow shape.

He described the interesting process he used to make the individual segments on his table saw and join them together to form the rings. He said that he glued each pair of segments of each ring together by applying **Titebond 3** glue to them and simply rubbing them together to obtain intimate contact. He noted that the two parts bonded to each other very firmly and quickly without further clamping pressure.

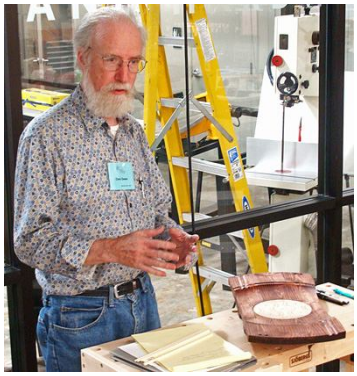
After joining six segments together to form three pairs, **Ed** bonded the pairs together to form a half ring by the same rubbing-until-bonded method. However, before bonding the final joint between two half rings, it was necessary to lightly sand the last two contact surfaces to remove any fabrication inaccuracies and ensure intimate contact. To accomplish this, Ed taped a sheet of sandpaper to his saw table and sanded the mating edges of the two halves. The two halves of each ring were then glued to each other and secured by light clamping pressure. He noted that the bonding took place very quickly such that he could move on to subsequent operations within half an hour.

To provide an interesting contrast with the side grain of the segmented rings, **Ed** laminated a block of end grain material which he chucked to the headstock of his lathe and faced off to provide a base to attach his segmented rings.

To ensure contact between the base and the first ring, and between each adjacent ring, **Ed** used another interesting set of operations. After forming each ring, he manually sanded one side of the ring with a sandpaper-faced disk. The sanded surface of the first segmented ring was then aligned and glued to the face of the base chucked in the lathe. Then he used a sandpaper-faced disk attached to his tailstock to lightly sand the outer face of the attached ring, truing up any irregularities. He repeated this same sequence of operations to attach each successive segmented ring to form the rough hollow shape. This method ensured parallelism between the segmented rings and intimate joint contact.

He then formed the final shape of bowl by turning off the internal and external excess material to form an elegant, gracefully shaped bowl. Hand applied polyurethane followed by Carnuaba wax completed the project. What a wonderful piece, **Ed**! Well done!!

ENTRY NO.6 **– Sushi Platter by Chris Green**



Chris Green's Challenge entry was an artistically crafted sushi platter with a very unusual contrasting circular inlay as its center feature. He noted that this was a proof of concept prototype which may lead to a future project.

By using the available video displays, he took us through an interesting slide show depicting the fabrication steps and important characteristics of his project from cutting of the stock material to turning the final configuration.

As with most of us, **Chris** found that the amount of material in an 8 foot 2 x 4 doesn't go very far! Consequently, he did a great deal of project preplanning and used some interesting techniques to maximize his material usage. However, he discovered that unknowingly he had purchased a 2 x 4 only 88 5/8" long, further challenging his material conservation efforts. **Herb Stoops** noted that this shortened stud length is commonly used in the building industry, but is not too commonly available to the general public.

He noted that he had some difficulty in obtaining a suitable 2 x 4 with the center pith located at the center of the end grain of the cross section, as this was a requirement to satisfy some of his design criteria.

We found it interesting that to conserve material, **Chris** removed the material from the top center area of his platter while in the rough stock form. He subsequently used this material to increase the thickness of the center area on the bottom of the platter to form a base for the project. This configuration also raised the ends of the platter, providing integral handles. Great thinking, **Chris**!

Another unique design feature of his sushi platter was the very unusual circular center inlay. **Chris** explained that he wanted the circular growth rings around the center pith area to be an important design feature. To accomplish this, he made photo copies of the growth ring end grain patterns and arranged them to suit his design concept. Then he made inlays of slices of the end grain and joined them into a panel which he finally shaped into a larger circular inlay for the center of the platter. The striking contrast between the light colored, highly figured, center inlay with the stained body of the platter greatly enhanced the beauty and elegance of the piece. Great job, **Chris**! Some more examples of your thoughtful preplanning and creative genius at work!!

At the end of the program, the members present voted on the **2 x 4 Challenge** entries. The winners of the gift card prizes were as follows:

First Place Winner: ***Serving Tray*** by **Paul Stoops**
Second Place Winner: ***Candlestick Holder*** by **Bill Bond**
Third Place Winner: ***Sushi Platter*** by **Chris Green**

Also, there was a drawing for a **Participation Prize** gift card which was won by **Ed Moore**.

Congratulations to all of the winners and a thank you to all of those who participated in the fun. We hope that we will have more participants in next year's **2 x 4 Challenge**. This is a great opportunity to showcase your skills and challenge your ability to create something out of a plain ole 2 x 4.

Upcoming Events

September 2014 Meeting – Meeting will be held on **Thursday, September 25, 2014** at **Woodcraft** in Seattle**. Bonnie Klein** will give a presentation about her First Prize winning stool entry in last year's **2 x 4 Challenge**. Another of our "**Don't Miss**" meetings. See you there.

***October 2014 Meeting* –** Meeting content still under development. Please let us know if you have any suggestions for this meeting.

A Special Notice from One of Our Sponsors

CLASSROOM COORDINATOR WANTED

If you're addicted to Woodworking, want to help spread the "woodworking gospel" and enjoy working in a well equipped shop, a position at **Woodcraft** beckons. You'll be helping to create and maintain a great learning environment while working 15-25 hours a week scheduling classes, maintaining a clean and organized professional shop and working with instructors that need an extra "shophand" in their classes. Potential perks include free classes and shoptime. Position could be Full time if you also want to work on the sales floor.

Contact Eli or Eben at (206) 767-6394 or
Woodcraftsales@Woodcraftseattle.com

A Note from the Editor

All of you who weren't present at this **2014 2 x 4 Challenge** meeting really missed a treat! I am continually astounded at the amazing creativity, craftsmanship and ingenuity portrayed by our members in the projects they create. Their individual and collective skills truly exemplify the spirit of the **Northwest Woodworkers Association**!

As we were viewing the contest entries, I heard several folks say how difficult it was going to be to select the prize winners. Many of us felt that ***all*** of the entries would qualify for the First Prize!

Therefore, on a personal level, I am humbled by the vote of confidence of our members in selecting my ***Serving Tray*** contest entry for the **First Prize** award. Having relocated in the last few years, requiring the building and equipping of a new (much smaller) shop, along with some home remodeling, my opportunity to create any projects except utility shop cabinets and accessories has been severely limited. So this was the first real opportunity for a long time for me to just have fun again with woodworking! And I enjoyed it to the fullest, refreshing my memory of just how great it is to be creative and be able to enjoy the wonderful tools available in my little shop. So I offer a heartfelt 'Thank You' to my fellow members for your support in winning this award. This project, which was really a prototype of a follow-on project, was a lot of fun, and full of interesting challenges and surprises. I hope to be able to apply my lessons learned to the next iteration, which hopefully will show up as a Show 'N' Tell item at a future meeting or maybe even a meeting presentation. Thanks, again.

Wishing you happy and safe woodworking,

Paul

Northwest Woodworkers Association Sponsors

We appreciate the generous support provided by our NWWA sponsors, from providing member discounts on purchased items to providing state of the art venues for us to conduct our monthly meetings. Thank you, Sponsors!

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We encourage our members to contact any of the above individuals with questions, comments, or items that may be of interest to the membership.

In addition, please visit our website and forum: http://www.nwwoodworkers.org